

REMARKS

Applicant respectfully requests reconsideration of this application.

Claims 1-3, 5-13, 23 and 25-27 are pending in this application.

No claims have been cancelled.

No claims have been added.

No claims have been amended.

Claims 1-3, 5-7, 11, 13, 23 and 25-27 were rejected under 35 U.S.C. §102(e) as being unpatentable over U.S. Patent No. 6,410,981 issued to Tao (hereinafter referred to as "Tao").

Claims 8-10 were rejected under 35 U.S.C. §103(a) as being considered unpatentable over Tao, alone.

Claim 12 was rejected under 35 U.S.C. §103(a) as being considered unpatentable over Chung in view of a subset of pages provided by the Examiner of a book entitled "Electronic Packaging and Interconnection Handbook" (copyright 1991 by McGraw-Hill) in which a Charles A. Harper is listed as the editor in chief (hereinafter referred to as "Harper").

35 U.S.C. §102(e) Rejection of Claims 1-3, 5-7, 11, 13, 23 and 25-27

The Examiner has rejected claims 1-3, 5-7, 11, 13, 23 and 25-27 under 35 U.S.C. §102(e) as being considered to be anticipated by Tao, and in so doing, the Examiner is repeating the same rejection originally presented in the previous Office Action. Applicant once again respectfully submits that claims 1-3, 5-7, 11, 13, 23 and 25-27 are not anticipated by Tao, because Tao does not teach each and every element of Applicant's invention as claimed.

Specifically, regarding independent claims 1 and 23, Applicant respectfully submits that Tao does not teach disposing a sealant between the

substrate and the lid in a pattern with at least one break in the pattern remaining subsequent to the substrate and the lid being assembled together. Tao does teach having at least one groove in cap 1 (as shown in Figures 1, 2a and 2b of Tao), or at least one groove in strengthening ring 2 (as shown in Figures 3, 4a and 4b of Tao), or having a strengthening ring 20 made up of multiple segments 20a (as shown in Figures 5a and 5b). There is no discussion anywhere within Tao of any breaks in the pattern of adhesive 7, and therefore, Applicant again maintains that Tao does not teach gaps in the sealant (or "adhesive"), at all.

Applicant's argument regarding claims 1 and 23, above, repeats the argument that Applicant made to the same rejection of these same claims in response to the previous Office Action. In the Response to Arguments section of the present Office Action, the Examiner responds to this same argument made by Applicant in response to the previous Office Action by stating that Applicant is arguing that strengthening ring in Tao cannot be considered a sealant, and that this argument by Applicant makes use of terms different from Tao to label the claimed invention and does not result in any structural difference between Applicant's claimed invention and the prior. In effect, the Examiner has argued that the strengthening ring of Tao is equivalent to the sealant of Applicant's claimed invention. Applicant respectfully disagrees, and draws the Examiner's attention to the lines 46-55 of column 2 of Tao, where the strengthening ring is described as being made of copper, and where there is some discussion of achieving the same structure with strengthening ring segments in the embodiment depicted in Figure 5 of Tao as with the single strengthening ring in the embodiment depicted in Figure 1 of Tao. The Examiner's attention is further drawn to the discussion at line 3 of column 4 in Tao discussing "adhering the strengthening ring 2 made of copper" to the surface of the substrate. Applicant respectfully submits that, as the name "strengthening ring" and the choice of

copper as the material makes clear, the strengthening ring taught in Tao is as much a portion of the structure of the package as are the substrate and cap, the strengthening ring is provided to give structural strength to the substrate (likely with the goal of preventing cracking of the substrate, as briefly alluded to in lines 16-18 of column 5), and the strengthening ring can no more be considered a sealant than either the substrate or the cap in the various embodiments described in Tao.

Applicant further respectfully submits that the assertion made in the Response to Arguments section of the present Office Action that "the term 'sealant' can be broadly interpreted as any material used to seal" and could therefore include the copper strengthening ring of Tao ignores the fact that the Applicant did provide some description of what Applicant intended as the definition of the word "sealant" in Applicant's invention as claimed. The Examiner's attention is respectfully drawn to lines 1-3 of page 8 and lines 11-14 of page 11 of the specification of Applicant's application where the sealant of Applicant's claimed invention is described as bonding the lid to the substrate. Applicant respectfully submits that a structure made of copper, such as the strengthening ring of Tao, does not possess the characteristic of being able to bond two other structures, such as a lid and a substrate, together. Furthermore, a reading of Tao reveals that the strengthening ring is, itself, is first "adhered" to the substrate and then the cap is "adhered" to the strengthening ring adhesive, and therefore, again, the strengthening ring of Tao cannot be correctly viewed as equivalent to the "sealant" of Applicant's claimed invention, taking into consideration the description of at least this property of bonding provided by the sealant of Applicant's claimed invention. The Examiner's attention is also further drawn to the attached definition of the word "sealant" provided from Webster's NewWorld Dictionary, Second College Edition, copyright 1980, Simon &

Schuster, David B. Guralink, Editor in Chief, page 1284. A review of the definition, therein, reveals that the materials used in defining the word "sealant" tend to be flexible and pliable materials. Given this, Applicant respectfully asserts that copper, particularly a variant of copper chosen to be a "strengthening ring," simply does not fit within the type of materials encompassed by this definition, again showing that the copper strengthening ring of Tao cannot be viewed as equivalent to a sealant, including a sealant able to bond a lid to a substrate. However, in an effort to more properly and particularly point out and distinctly claim that which Applicant regards as his invention, Applicant has amended claims 1 and 23 to more explicitly recite the bonding characteristic of the sealant of Applicant's claimed invention.

Also regarding independent claims 1 and 23, Applicant respectfully submits that Tao does not teach having thermal attach disposed between the inner surface of the lid and the die. The text of Tao (e.g., lines 5-10 of column 4) discloses only adhesive between the inner surface of the lid ("cap" in Tao) and the die ("semiconductor chip" in Tao).

With regard to claims 6 and 7, the Office Action makes reference to Figure 5a of Tao while stating that "Tao shows that sealant is disposed between the lid and the substrate is a substantially rectangular pattern with at least one break" and that "Tao shows that the rectangular pattern has four breaks, one in each side of the substantially rectangular pattern." Applicant respectfully submits that, as discussed at length above, Tao does not disclose a sealant that bonds a lid to a substrate. As discussed above, the pieces of copper strengthening ring depicted in Figure 5a of Tao, which is relied upon for this rejection of these claims, are not equivalent to a sealant of Applicant's claimed invention. Applicant asserts similar arguments regarding similar rejections made in the Office Action against claims 25 and 26.

With regard to claims 2-3, 5-7, 11, 13 and 25-27, these claims each depend, directly or indirectly, from independent claims 1 and 23, and therefore incorporate all of the limitations of claims 1 and 23, which Applicant has previously asserted are patentably distinguished over Tao.

For at least these reasons, Applicant respectfully submits that claims 1-3, 5-7, 11, 13, 23 and 25-27 are patentably distinguished over Tao, and are in condition for allowance.

35 U.S.C. § 103(a) Rejections of Claims 8-10

The Examiner has rejected claims 8-10 under 35 U.S.C. § 103(a) as being considered to be unpatentable over Tao, alone.

Applicant respectfully submits that claims 8-10 depend, directly or indirectly, from independent claim 1, and therefore, incorporate all of the limitations of claim 1, which Applicant has asserted is patentably distinguished over Tao.

Furthermore, to establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). (MPEP 2143.03). Applicant respectfully submits that, as discussed, above, Tao does not teach or suggest all the features of Applicant's invention as claimed. Specifically, as discussed above, Tao does not teach or suggest a sealant disposed between the substrate and the lid to bond the lid to the substrate, wherein the sealant is disposed in a pattern with at least one break remaining subsequent to the substrate and lid being assembled together. Also, as previously discussed, Tao does not teach or suggest having thermal attach disposed between the inner surface of the lid and the die.

For at least these reasons, Applicant respectfully submits that claim 8-10 are patentably distinguished over Tao, and are in condition for allowance.

35 U.S.C. § 103(a) Rejection of Claim 12

The Examiner has rejected claim 12 under 35 U.S.C. § 103(a) as being considered to be unpatentable over Tao in view of Harper.

Applicant respectfully submits that claim 5 depends from independent claim 1, and therefore, incorporates all of the limitations of claim 1, which Applicant has asserted is patentably distinguished over Tao.

Furthermore, to establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). (MPEP 2143.03). Applicant respectfully submits that, as discussed, above, Tao does not teach or suggest all the features of Applicant's invention as claimed. Specifically, as discussed above, Tao does not teach or suggest a sealant disposed between the substrate and the lid to bond the lid to the substrate, wherein the sealant is disposed in a pattern with at least one break remaining subsequent to the substrate and lid being assembled together. Also, as discussed above, Tao does not teach or suggest thermal attach disposed between the inner surface of the lid and the die. Harper also does not teach or suggest either of these two limitations, and therefore, there can be no combination of Tao and Harper that teaches either of these two limitations. These deficiencies are not cured by the possibility of a teaching or suggestion by Harper of a substrate comprised of organic material.

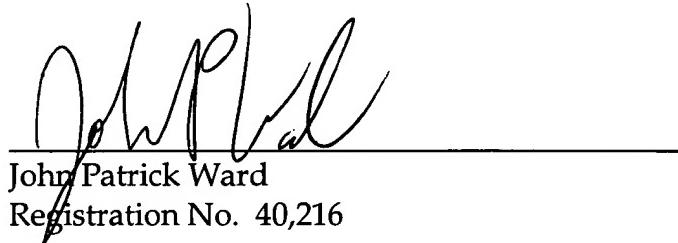
For at least these reasons, Applicant respectfully submits that claim 12 is patentably distinguished over any combination of Tao and Harper, and is in condition for allowance.

Condition for Allowance

Applicant submits that all rejections and objections have been overcome and the present application is now in condition for allowance. If there are any additional charges or shortages related to the present communication, please charge our Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

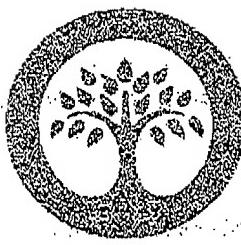


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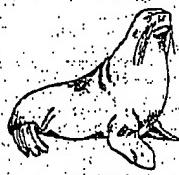
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seal

1284

search warrant

seal *selen.* < OFr. *seeler* < the n. 1. to mark with a seal; fix a seal to 2. to secure the contents of (a letter, envelope, etc.); orig. by closing with a sealed wax wafer, now usually with mucilage, tape, or a gummed flap 3. to confirm or authenticate (a document, etc.) by marking with a seal 4. to attest to or confirm the truth or genuineness of (a promise, bargain, etc.) 5. to certify as being accurate, exact, of a given size, quality, capacity, etc. by fixing a stamp or seal to 6. to grant; assign; or designate with a seal, pledge, etc. 7. to settle, determine, or decide finally or irrevocably [to seal one's fate] 8. a) to close, shut, or fasten with or as with a seal [to seal one's lips]; b) to close completely so as to make airtight or watertight 9. to apply a nonpermeable coating to a porous surface, as of wood, as before painting 9. *Eliz.* to bring (a plug and stock) into full interlocking contact 10. *Mormonism* a) to make formal and binding; solemnize (a marriage, adoption, etc.) b) to give (a woman) in marriage —*seal-off* 1. to close completely 2. to enclose or surround (an arch, etc.) with barriers or a cordon, etc. —*set one's seal to* 1. to mark with one's seal 2. to endorse; approve —*the seals* [Brit.] symbols or marks of office esp. of public office —*under (one's) seal* in a document authenticated by one's seal —*seal* (sel) *n.*, pl. *seals*; *seal*: see *FLUVAL*, II, B, 1 [ME. *sel* < OE. *scel*, akin to OHG. *scel*, prob. < IE. base *sel-, to pull, draw with reference to the seal's labored movements on land] 1. any of various sea mammals (suborder Pinnipedia) with a torpedo-shaped body, a doglike head, and four webbed feet or flippers; they live in cold or temperate waters and eat chiefly fish; see *BARED SEAL*, *EARLESS SEAL* 2. a) the fur of a seal b) a similar fur used as a substitute for this 3. leather made from seal skin —*vt.* to hunt seals



SEAL
(5-7 ft. long)

→ **Sea-lab** (sel'ab) *n.* [SEA + LAB (ORATORY)] any of a series of experimental underwater laboratories developed by the U.S. Navy for underwater explorations and for research in oceanography, marine biology, etc. **sea lamprey** a parasitic lamprey (*Petromyzon marinus*) of the N. Atlantic that swims upstream to spawn; now landlocked in the Great Lakes, where it is highly destructive to lake trout

sea-lant a commonly used route for travel by sea **sea-lant** (sel'ant) *n.* [SEA + ANT] a substance, as a wax, plastic, silicone, etc., used for sealing **sea lavender** any of a genus (*Limonium*) of stiff plants with white, pink, lavender, or yellow flowers and many branches; often dried for winter bouquets **sea lawyer** [Colloq.] a contentious sailor, who habitually argues questions of orders and regulations, etc.

seal brown a rich, dark brown **sealed**, **orders** written orders or instructions, as to the captain of a ship, informing him of his destination, mission, etc., given in a sealed envelope not to be opened until a specified time or place is reached **sea-legs** the ability to walk without loss of balance on board ship, esp. in a rough sea **seal-ex** (sel'ek) *n.* 1. a person or thing that seals; specifically, a substance used to seal a porous surface, as before painting 2. an inspector who tests and certifies weights and measures **seal-er** (sel'er) *n.* 1. a hunter of seals 2. a ship used in seal hunting

seal-er-y (sel'ærē) *n.*, pl. *series* 1. a place where seals are hunted. 2. the work of hunting seals. Also *seal-fishery*

sea lettuce any of a genus (*Ulva*) of marine green algae with edible, leafy parts

sea level the level of the surface of the sea; esp. at a mean level between high and low tide; used as a standard in measuring heights and depths

sea lily a stalked and attached crinoid

sealing wax a combination of resin and turpentine used for sealing letters, dry cells, etc.; it is hard at normal temperatures but softens when heated

sea lion any of several large eared seals (genera *Zalophus*, *Eumetopias*, and *Otarid*) of the N Pacific, lacking underfur

seal ring same as *SICNET RING*

seal-skin (sel'skin) *n.* 1. the skin or pelt of the fur seal, esp. with the coarse outer hair removed and the soft undercoat dyed dark-brown or black 2. a garment made of this —*adj.* made of seal skin

Sealyham terrier (sel'ē ham'; also, *chi chi*, Brit., *It am*) [from being bred at Sealyham, an estate in Pembrokeshire, Wales] any of a breed of small, long-bodied terrier, with short legs, a white coat, a long head and square jaws

seam (sem) *n.* [ME. *semen* < OE. *seomn*; akin to G. *saum*: < IE. base *sim-] *vt.*, whence *swell*] 1. the line formed by sewing together two pieces of material 2. a line formed by the joining together of any separate pieces; line marking adjoining edges, as of boards 3. a mark; line ridge, etc. like this, as a scar, wrinkle, mold line on glass, etc. 4. a thin layer or stratum of ore, coal, etc. —*vt.* 1. to join together so as to form a seam 2. to mark with a seamlike line, crack, wrinkle, etc. 3. *Knitting* same as *PURL* —*adj.* [Rare] to develop cracks or fissures

sea-maid (sel'mid') *n.* [Obs. or Poet.] 1. a mermaid 2. a sea nymph or goddess. Also *sea-maid'en*

sea-men (sel'men) *n.*, pl. *men (men)* [ME. *seomen*]

seaman *see SEA & MAN* 1. a sailor; marinier 2. an enlisted man ranking below a petty officer in the navy

seaman apprentice an enlisted man ranking below a seaman in the navy

sea-man-like (sel'kī) *adj.* like or characteristic of a seaman; showing seamanship; also *sea-man'y*

seaman recruit an enlisted man holding the lowest rank in the navy, below seaman apprentice

sea-man-ship (-ship') *n.* skill in sailing; navigation; working a ship

sea-mark (sel'mark) *n.* 1. a line marking the limit of a tide 2. any prominent object on shore, as a light, serving as a guide for ships

sea-new [ME. *senewe*; see MW¹] *Brit.* var. of *SEA*

seam-less (sem'lis) *adj.* made without a seam

sea-mount (sel'mount) *n.* a mountain rising from the floor but not reaching the surface

sea mouse any of a genus (*Aptocyathus*) of large, plumose worms, with a flat, oval body covered with tentacles

seam-star (sem'star) *Brit.* usually *seam'* *n.* [Dialect]

seamstress (stris) *n.* [ME. *seamestre*, man or woman who sews] *see SEAM* + *STRESS* a woman who is expert at sewing, esp. makes her living by sewing

seam-y (sel'mē) *adj.* seam'd, -er, -est 1. having seams, esp. with rough, unfinished edges 2. unpleasant; squalid; dirty (the seam'y side of life) —*seam'men* *n.*

Seán-ád *Ir.-eann* (shān'ād'er'en) [I.] the upper part of the legislature of Ireland

seance (sē'ans) *n.* [Fr., *hit*] a sitting < 1697 < L. *sesatio* to sit 1. a meeting or session; now specifically, a meeting which spiritualists seek or profess to communicate with the spirits of the dead

sea nettle any of several large stinging jellyfishes

reddish species (*Dactyloctenium quinquacirra*) found in the Atlantic coast of N. America

sea onion 1. same as *SQUILL* (senses 1 & 2) 2. a European scilla (*Scilla sericea*) with blue flowers

sea otter a web-footed sea mammal (*Enhydra lutris*) the otter family, found along the N Pacific coast; dark-brown fur is very valuable

sea pen any of several marine, mud-dwelling coleoids (genus *Penicillina*) that form feather-shaped colonies

sea-plane (sel'plan') *n.* any airplane designed to land and take off from water

sea-port (-port') *n.* 1. a port or harbor used by ocean

2. a town or city having such a port or harbor

sea power 1. naval strength 2. a nation having naval strength

sea-purse a horny egg-case or egg capsule produced by certain skates, rays, and sharks

sea-quake (sel'kwik) *n.* an earthquake on the ocean

sear (sir) *adj.* [ME. *sear*, dry < OE. *sear*] whence *Sans. *sugyat**, (he) dries; withers; L. *secus*, var. of *SEAR* —*vt.* [ME. *searen* < OE. *searian* < ME. *sear*] 1. to dry up; wither 2. to scour or burn the surface 3. to brand or cauterize with a hot iron 4. to make calloused or unfeeling; harden —*vi.* [Archaic] to dry up; wither; a mark or condition caused by searing —*adj.* *sear'*

sear' (sir) n. [*MT.* *sears*, a bolt < OFr. *serve*, to press < VL. **servare*, altered (after) *severa*, L. *severe*, LL. *severe*, to bolt; bar; *bar* < L. *securia*, a bar, bolt) the handle of a gunlock that holds the hammer cocked or half-cocked

sea raven a kind of sculpin (*Hemisphyrus americanus*) found in the North Atlantic

search (sarch) *vt.* [ME. *searchen* < OFr. *rechercher* < L. *circare*, to go round, go about, explore < *circus*; *circus* *CIRCUS*] 1. to go over or look through for the purpose of finding something; explore; summarize; examine; look over a house for a lost article 2. to examine (a person) something concealed, as by running one's hands over clothing, through the pockets, etc. 3. to examine and carefully test and try; probe (to search for scientific knowledge) 4. to look through (writings, records, etc.) to establish certain facts 5. to find out or uncover by investigation (usually with *out*) —*vi.* to try to find something; make a search —*n.* 1. an act of searching; inquiry, or examination in an attempt to find something; gain knowledge; establish facts, etc. 2. the act of a diligent in stopping and searching a neutral ship for contraband; see *RIGHT OF SEARCH* —*in search of* a search for; trying to find; locate, etc. by search —*search me* [Slang] I do not know the answer —*query* —*search a ble* —*search er* —*search ing* (in) *adj.* 1. examining or exploring thoroughly; scrutinizing; thorough 2. sharp; piercing; penetrative —*searching wile* —*searching ly* *adv.*

search-light (lit') *n.* 1. an apparatus containing a reflector on a swivel for projecting a strong

search beam in any direction 2. such a beam

search-party a group of people taking part in a search for a lost or missing person

search warrant a legal document authorizing or directing a police officer to search a specified person, dwelling, etc., as for stolen or contraband articles to be used in evidence, etc.